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EXAMINER

PRUCHNIC, STANLEY J

ART UNIT PAPER NUMBER

2859

DATE MAILED: 05/25/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/706,935

Applicant(s)

DAMMANN, HANS-JOACHIM

Examiner

Stanley J. Pruchnic, Jr.

Art Unit

2859

-- The MAILING DATE of this communication appears on the cover sheet with the corresponding address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-22 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 14 November 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☒ Certified copies of the priority documents have been received in Application No. 10/096,158.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_

## DETAILED ACTION

### *Priority*

1. Acknowledgment is made of applicant's claim for foreign priority under 35 U.S.C. 119(a)-(d). The certified copy has been filed in parent Application No. 10/096,158, filed on 11 March 2002.

### *Specification*

2. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

The following title is suggested: --FIBER OPTIC TEMPERATURE MONITORING METHOD--.

### *Claim Objections*

3. Claims 2, 4, 6, 7, 12, 15, 17 and 18 are objected to because of the following informalities:

In Claim 2, in Line 2, please insert the word --said-- before "location" in order to more clearly describe the invention.

In Claim 2, in Line 2, please insert the word --a-- before "return time" in order to more clearly describe the invention.

In Claim 2, in Line 2, perhaps the last word in the line, the word "return" after the phrase "return time of said" should be deleted and replaced therefor by the word --reflection-- in order to more clearly describe the invention.

In Claim 4, in Line 2, please insert the word --said-- before "comparison signal" in order to more clearly describe the invention.

In Claim 6, in Line 3, please insert the word --a-- before "comparison signal" in order to provide proper antecedent basis.

In Claim 7, in Line 2, please insert the word --said-- before "comparison signal" in order to more clearly describe the invention.

In Claim 12, in Line 2, please insert the word --said-- before "location" in order to more clearly describe the invention.

Art Unit: 2859

In Claim 12, in Line 2, please insert the word --a-- before "return time" in order to more clearly describe the invention.

In Claim 12, in Line 2, perhaps the last word in the line, the word "return" after the phrase "return time of said" should be deleted and replaced therefor by the word --reflection-- in order to more clearly describe the invention.

In Claim 15, in Line 2, please insert the word --said-- before "comparison signal" in order to more clearly describe the invention.

In Claim 17, in Line 3, please insert the word --a-- before "comparison signal" in order to provide proper antecedent basis.

In Claim 18, in Line 2, please insert the word --said-- before "comparison signal" in order to more clearly describe the invention.

Appropriate correction is required.

***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1-22 are rejected under 35 U.S.C. 102(b) as being anticipated by IIDA *et al.* (U. S. Patent No. 5,356,220, hereinafter ***IIDA'220***).

IIDA'220 discloses a method for monitoring a temperature condition, comprising:

step for inputting a light pulse 18 (Col. 4, Lines 49-55; 65-68) into a fiber optic cable 2;

step for receiving a reflection signal (19, Raman backscattered light) that arises from said input light pulse 18 in said fiber optic cable 2 (see Col. 5, Lines 22-47);  
and

step 12 (Col. 5, Lines 55-63) for determining a temperature condition (temperature distribution) along the fiber optic cable and a location of the temperature

condition along the fiber optic cable based on said reflection signal as claimed by Applicant in Claims 1 and 12.

Regarding Claims 2 and 13, IIDA'220 discloses said step for determining comprises determining said temperature condition and location based on an amplitude and return time of said [return] reflection signal (Col. 3, Lines 44-51).

Regarding Claims 3 and 14, IIDA'220 discloses said step for determining said temperature condition based on at least one of a threshold value and a comparison signal (Col. 5, Lines 55-63).

Regarding Claims 4 and 15, IIDA'220 discloses said step for adjusting a comparison signal (Col. 6, Lines 1-13; *i.e.*, the temperature distribution is determined by comparing two distributions, as a result of adjusting the length of the fiber; Col. 4, Lines 63-68) to detect different temperature conditions, *i.e.*, to detect the different temperatures along the length of the fiber as claimed by Applicant.

Regarding Claims 5, 6, 16 and 17: IIDA'220 discloses said step for determining different portions of the fiber optic cable based on different return times of said reflection signal (Col. 3, Lines 44-51); and said step for determining said temperature condition in each of said different portions of the fiber optic cable based on at least one of a threshold value and comparison signal corresponding to each of said different portions of the fiber optic cable.

Regarding Claims 7 and 18, IIDA'220 discloses said step for adjusting each of said corresponding comparison signals to detect different temperature conditions among said different portions of the fiber optic cable, as the two intensity distribution

signals are considered to include the comparison signals which function to detect different temperatures at each of said different portions of the fiber optic cable (*i.e.*, the temperature distribution is determined by comparing two phase-shifted distributions; Col. 6, Lines 1-13).

Regarding Claims 8 and 19, IIDA'220 discloses said processor is step for determining said location by determining at least one of a location relative to an overall length of the fiber optic cable, and an absolute distance from one end of the fiber optic cable (Figs. 6-8).

Regarding Claims 9 and 20, IIDA'220 discloses said processor is step for determining at least one of a temperature duration and a temperature progression (*i.e.*, "temperature changes rapidly"; Fig. 1, Step S5) over a predetermined time interval.

Regarding Claims 10 and 21, IIDA'220 discloses a step for generating a signal to initiate at least one of an alarm (Fig. 1, Step S5), a safety measure or a corrective measure (Sprinkling Control Computer 25; Fig. 10; Col. 9, Lines 50-66).

Regarding Claims 11 and 22, IIDA'220 discloses a step for correlating (Col. 5, Lines 60-64) said location of the temperature along said fiber optic cable with a spatial location of an area occupied by said cable; and a step for displaying on a display the spatial location of the area occupied by said cable (See also Col. 8, Lines 3-44).

### ***Double Patenting***

6. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11

F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

7. Claims 1-10 and 12-21 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-20 of copending Application No. 10/706,937 (hereinafter referred to as SISTER). Although the conflicting claims are not identical, they are not patentably distinct from each other because (1) the method claims in the instant application require the claimed elements of the system, or their equivalents, as claimed in the SISTER application and (2) the system claimed in the SISTER application is configured for practicing the method claimed in the instant application.

The claimed method for monitoring a temperature condition, as claimed by Applicant in Claims 1 and 12, includes the following method steps which require the elements of the SISTER application, or their equivalents, arranged and functioning as claimed in the SISTER application:

The step for inputting a light pulse into a fiber optic cable requires a light emitting device coupled to a fiber optic cable;

The step for receiving a reflection that arises from said input light pulse in said fiber optic cable requires an optical receive coupled to said fiber optic cable configured to receive the reflection signal that arises from said inputting of a light pulse into the fiber optic cable; and

The step for determining a temperature condition along the fiber optic cable and a location of the temperature condition along the fiber optic cable based on said reflection signal requires a processor, or an equivalent device, configured to perform said functions as claimed by Applicant in the SISTER application.

The system, as claimed by Applicant in Claims 1 and 11 of the SISTER application, includes these elements: a fiber optic cable; a light emitting device; an optical receiver; and a processor, each arranged and functioning together for monitoring a temperature condition as claimed in the instant application:

a light emitting device - is coupled to a fiber optic cable and configured for

"inputting a light pulse into a fiber optic cable";

an optical receiver - is coupled to said fiber optic cable and configured to receive the resulting signal - thereby "receiving a reflection that arises from said input light pulse in said fiber optic cable"; and

a processor is configured to determine (for determining) "a temperature condition along the fiber optic cable and a location of the temperature condition along the fiber optic cable based on said reflection signal" as claimed in the instant application.

Similarly, all the steps of the method claimed in the instant application in Claims 2-10 and 13-21 have a one-for-one correspondence to the respective claims 2-10 and 12-20 of the SISTER application.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

8. Claims 11 and 22 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-20 of copending Application No. 10/706,937 (SISTER) in view of **IIDA'220**.



SISTER claims or suggests all the limitations as claimed by Applicant in Claims 11 and 22 including the limitations of claims 1 and 12, as described above in Paragraph 7, regarding Claims 1-10 and 12-21. Claims 11 and 22 further include the limitations of correlating said location of the temperature condition with a spatial location and displaying on a display the spatial location of the area occupied by said fiber optic cable, not claimed in SISTER.

**IIDA'220** discloses that is known in the art to provide a system for monitoring a temperature with a display for correlating said location of the temperature condition with a spatial location and displaying on the display the spatial location of the area occupied by said fiber optic cable (Col. 8, Lines 3-44).

**IIDA'220** further teaches or suggests that it is advantageous to correlate said location of the temperature condition with a spatial location and display on the display the spatial location of the area occupied by said fiber optic cable in order to enable the operator to understand easily where in the system any hot spots may be.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide the system and method of SISTER with a display for visualizing the correlated spatial location of the temperature condition in order to enable the operator to understand easily as taught by **IIDA'220**.

This is a provisional obviousness-type double patenting rejection.

### **Conclusion**

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The prior art cited in a form PTO-892 and not mentioned above disclose related fiber optic devices and methods for computer controlling systems.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Stanley J. Pruchnic, Jr., whose telephone number is **(571) 272-2248**. The examiner can normally be reached on weekdays (Monday through Friday) from 7:30 AM to 4:00 PM. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Diego F. F. Gutierrez can be reached at **(571) 272-2245**.

The **Official FAX** number for Technology Center 2800 is **(703) 872-9306** for **all official communications**.

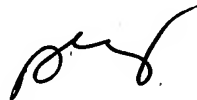
Any inquiry of a general nature or relating to the status of this application or proceeding may be directed to the official USPTO website at **<http://www.uspto.gov/>** or you may call the **USPTO Call Center** at **800-786-9199** or 703-308-4357. The Technology Center 2800 Customer Service FAX phone number is (703) 872-9317.

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For inquiries relating to Patent e-business products and service applications, you may call the **Patent Electronic Business Center (EBC)** at **703-305-3028** or toll free at **866-217-9197** between the hours of **6 a.m. and midnight Monday through Friday EST**, or by e-mail at: **[ebc@uspto.gov](mailto:ebc@uspto.gov)**. Additional information is available on the Patent EBC Web site at: **<http://www.uspto.gov/ebc/index.html>**.



Stanley J. Pruchnic, Jr.  
5/19/04



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